REMARKS

Claims 1-34 are currently pending. Claims 1-4, 6, 10-13, 15, 20, and 23-29 have been amended for clarification. Claim 34 has been amended to incorporate subject matter from claim 1. It is respectfully submitted that no new matter has been added.

The Patent Office is thanked for allowing claims 23-30.

The Patent Office rejected claim 34 under 35 U.S.C. 102(b) as being anticipated by Kadaba, U.S. Published Patent Application No. 2002/0172217.

For a claim to be anticipated, each and every non-inherent claim limitation must be disclosed in a single reference. MPEP 2131.

Claim 34 recites as follows:

> A mobile station, comprising: a transceiver for receiving and transmitting signals; a signal processor coupled to the transceiver; a controller coupled to the signal processor, the controller receiving information from the signal processor derived from the signal processor and providing information to the signal processor to be converted for transmission through the transceiver, wherein the mobile station comprises an autonomous mode and a scheduled mode, wherein, in the autonomous mode, the mobile station is configured to select a data transmission rate for transmission to the base station, wherein, in the scheduled mode, the mobile station is configured to transmit a request by providing the data transmission power and the selected data transmission buffer status to the base station for granting a data transmission rate to the mobile station.

Kadaba does not disclose "in the scheduled mode, the mobile station is configured to transmit a request by providing the data transmission power and the selected data transmission buffer status to the base station for granting a data transmission rate to the mobile station." On page 3, last three lines, of the Final Office Action dated January 19, 2007, the Patent Office admits that Kadaba does not disclose this subject matter. As explained below by Applicant, none of the three cited references – Kadaba, Koo, or Bae – disclose this subject matter.

Thus, claim 34 is allowable over Kadaba, Koo, and/or Bae.

The Patent Office rejected claims 1-4, 10-13 and 19 under 35 U.S.C. 103(a) as being unpatentable over Kadaba, U.S. Published Patent Application No. 2002/0172217, in view of Koo, U.S. Published Patent Application No. 2003/0039267.

Claim 1 recites

> A method for operating a mobile station with a base station, comprising: when the mobile station is in an autonomous mode of operation, autonomously transmitting data from the mobile station to the base station on a reverse channel; in response to receiving an acknowledgment indication from the base station, that comprises a reverse channel assignment message for the mobile station, switching the mobile station to a scheduled mode of operation, where, while in the scheduled mode, the mobile station provides the data transmission power and the selected data transmission buffer status as a request; and transmitting data from the mobile station on an assigned reverse channel.

Claim 10 recites

> A mobile station, comprising: an RF transceiver for conducting bidirectional wireless communications with a base station; and a data processor operating under the control of a stored program for, when the mobile station is in an autonomous mode of operation, autonomously transmitting from the mobile station to the base station on a reverse channel, said data processor being responsive to a reception of an acknowledgment indication from the base station, that comprises a reverse channel assignment message for the mobile station, for switching the mobile station to a scheduled mode of operation and for transmitting data from the mobile station on an assigned reverse channel, where, while in the scheduled mode, the mobile station provides the data transmission power and the selected data transmission buffer status as a request.

Claims 1 and 10 recite "switching the mobile station to a scheduled mode of operation, where, while in the scheduled mode, the mobile station provides the data transmission power and the selected data transmission buffer status as a request."

Kadaba discloses (paragraph 0027) that the mobile station alerts a base station to its presence and provides it buffer size. Kadaba also discloses (paragraph 0030) that the base station determines the size, duration, and rate of a mobile station's data burst transmission without ambiguity based on the mobile station's buffer size. Although Kadaba (paragraphs 0077-0078) does disclose in a case that the mobile station and the base station negotiate a maximum data rate, Kadaba does not disclose how this is done nor disclose or suggest "switching the mobile station to a scheduled mode of operation, where, while in the scheduled mode, the mobile station provides the data transmission power and the selected data transmission buffer status as a

request."

The Patent Office, in the Final Office Action dated January 19, 2007, asserted

> Koo teaches the mobile station providing the data transmission power and the selected data transmission buffer status as a request (see paragraphs [0063] & [0064]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include while in the Scheduled mode, the mobile station provides the data transmission power and the selected data transmission buffer status as a request because both references teach a multi mode data communication system using a forward and/or reverse link control channel structure and the combination would allow for a flexible method to schedule wireless unit transmissions and/or allow the wireless unit to transmit autonomously.

Koo, paragraphs 0063 and 0064, recites as follows:

> [0063] If the MADR is higher than 9.6 Kbps in step 4-25, the MS measures its maximum available transmission power in step 4-50 and determines a data rate by comparing the MADR with its power limit in step 4-55. Though not depicted in FIG. 4, **the MS may consider its transmission buffer status in determining the data rate** as in Eq. (2).

> [0064] If the determined data rate is equal to or lower than 9.6 Kbps in step 4-65, the MS goes to step 4-90. If the data rate is higher than 9.6 Kbps, the MS transmits an R-RICH with an IAB of 00 and the determined data rate set to the BS in step 4-70. The R-RICH signal is a jamming signal. The MS monitors the F-CDRCH in the next frame in step 4-75 and compares an MADR set in the F-CDRCH with the determined data rate, that is, the IADR in step 4-80. **If the MADR is equal to or higher than the IADR, the MS transmits data on the R-SCH at the IADR in step 4-85. On the other hand, if the MADR is lower than the IADR in step 4-80, the MS goes to step 4-30.**

Koo, in paragraphs 0063 and 0064, teaches that the mobile station determines its own data transmission rate and then transmits data at that rate. Claims 1 and 10 recite "while in the scheduled mode, the mobile station provides the data transmission power and the selected data transmission buffer status as a request." Koo not only does not teach or suggest that the mobile station provides the data transmission power and the selected data transmission buffer status **as a request**, Koo, at least from paragraphs 0063 and 0064, could not use the data transmission power

and the selected data transmission buffer status as a request because Koo's invention lies in the mobile station determining its data transmission rate.

Thus, claims 1-19 are not made obvious by Kadaba in view of Koo.

The Patent Office rejected claims 5-9, 14-18, and 20-22 under 35 U.S.C. 103(a) as being unpatentable over Kadaba, in view of Koo and Bae, U.S. Published Patent Application No. 2003/0125037.

Claim 20 recites

> A method for operating a mobile station with a base station for transmitting data packets from the mobile station to the base station over a reverse supplemental channel, comprising: when the mobile station is in an autonomous mode of operation, autonomously transmitting from the mobile station to the base station initiate a data transmission from the mobile station to the base station, the transmission comprising a supplemental channel request message that is transmitted over a reverse enhanced access channel or a reverse supplemental channel; receiving an acknowledgment indication from the base station over a Common Power Control Channel, the acknowledgment indication comprising a **supplemental channel assignment message** comprising **power control bits and data rate grant bits**; in response to receiving the acknowledgment indication from the base station, switching the mobile station to a scheduled mode of operation; transmitting data packets from the mobile station on an assigned reverse channel, further comprising transmitting mobile station buffer activity bits and a data rate request bit, and receiving, from the base station in response, a power control bit, a data rate grant bit and an acknowledgment/non-acknowledgment indication.

Kadaba, as discussed above, does not disclose a supplemental channel assignment message comprising power control bits and data rate grant bits.

The Patent Office asserted

> Koo teaches where the data rate request bit is transmitted as part of a dynamic buffer status report, and requests one of an increase in data rate, a decrease in data rate, or no change in the data rate (see paragraph [0063]). Bae teaches receiving the power control bits and data rate grant bits by the mobile station on a common power control channel (see paragraphs [0033] & [0034]). Bae teaches transmitting mobile station buffer activity bits and a data rate request bit, and further comprising receiving, from the base station, a power control bit, a data rate grant bit (see paragraphs [0033]-[0034] and [0037] & Table 1). It would have been obvious to one of ordinary skill in the art at the time the invention

was made to make the device adapt to include receiving an acknowledgment indication from the base station over a common power control channel, the acknowledgment indication comprising a Supplemental Channel Assignment Message comprising power control bits and data rate grant bits, transmitting mobile station buffer activity bits and a data rate request bit and receiving from the base station a power control bit, a data rate grant bit and an acknowledgment/ non-acknowledgment indication because both references teach a multi mode data communication system using a forward and/or reverse link control channel structure and the combination would allow for a flexible method to schedule wireless unit transmissions and/or allow the wireless unit to transmit autonomously.

Koo, paragraph 0063, recites as follows:

[0063] If the MADR is higher than 9.6 Kbps in step 4-25, the MS measures its maximum available transmission power in step 4-50 and determines a data rate by comparing the MADR with its power limit in step 4-55. Though not depicted in FIG. 4, **the MS may consider its transmission buffer status in determining the data rate** as in Eq. (2).

Koo does not disclose "the acknowledgment indication comprising a **supplemental channel assignment message** comprising **power control bits and data rate grant bits.**" Koo also does not disclose or suggest "the data rate request bit is transmitted as part of a dynamic buffer status report, and requests one of an increase in data rate, a decrease in data rate, or no change in the data rate," as asserted by the Patent Office, in paragraph 0063.

Bae, paragraphs [0033]-[0034] and [0037], recites as follows:

[0033] Besides a channel for transmitting a signaling message and an R-SCH for transmitting reverse data, a BS further assigns a forward access permission control channel (F-APCCH) to deliver a permission bit indicating whether reverse data transmission is permitted in each frame of the R-SCH. For example, if the permission bit is 0, it indicates "wait" and if it is 1, it indicates "transmit".

[0034] The F-APCCH is comprised of a predetermined number of, for example, 16 sub-channels (i.e. sub-slots). An R-SCH and an F-APCCH sub-slot are simultaneously assigned to an MS so that a BS can provide dedicated control to the MS. The F-APCCH can be formed in the same structure as a forward common power control channel (F-CPCCH) provided by IS-2000(International Standard)

[0037] The MS uses an RSCRM (Reverse supplemental channel request message) as illustrated in Table 1 when requesting the R-SCH and the BS uses an RSCAM (Reverse Supplemental Channel Assignment Message) as illustrated in Table 2 in response to the RSCRM to assign the R-SCH and indicate a permitted data rate and a permitted transmission duration.

Bae discloses in paragraphs 0056 as follows:

[0056] The **reverse data rate of the MS is determined according to REV_SCH_DTX_DURATION and REV_SCH_NUM_BITS_IDX**. The RSCAM may include APCCH_ID and APCSCH_ID depending on the value of APCCH_INCL. In Table 2, APCCH_ID is 2 bits and APCSCH_ID is 4 bits, which implies that reverse data transmission from MSs is controlled using 4 F-APCCHs and 16 F-APCCH sub-slots. The numbers of bits assigned to the two fields can be set freely.

Bae discloses that the mobile station determines its data rate by using the transmission duration of reverse data (**REV_SCH_DTX_DURATION**) and the index indicating the amount of data during the transmission duration (**REV_SCH_NUM_BITS_IDX**) form the Reverse Supplemental Channel Assignment Message (RSCAM) (paragraphs 0050-0052).

Bae, like Koo, does not disclose "the acknowledgment indication comprising a **supplemental channel assignment message** comprising **power control bits and data rate grant bits**." Bae does not disclose or suggest that the reverse supplemental channel assignment message (RSCAM) comprises data rate grant bits.

Thus, claims 20-22 are allowable over Kadaba in view of Koo and Bae.

For similar reasons, claims 5-9 and 14-18 are allowable over Kadaba in view of Koo and Bae.

The Patent Office rejected claims 31-33 under 35 U.S.C. 103(a) as being unpatentable over Kadaba, in view of Bae.

Claim 31 recites

A method for operating a mobile station with a base station, comprising: when the mobile station is in an autonomous mode of operation, autonomously transmitting data from the mobile station to the base station on a reverse channel; the mobile station receiving an assignment message from the base station, the assignment message comprising an acknowledgment/non-acknowledgment indication, power control bits, and

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data rate grant bits; in response to receiving an acknowledgment indication from the base station, switching the mobile station to a scheduled mode of operation; and transmitting data from the mobile station to the base station over a reverse supplemental channel (R-SCH), wherein there exist at least four R-SCH states and a plurality of transitions between the R-SCH states.

Claim 32 recites

A mobile station, comprising: an RF transceiver for conducting bidirectional wireless communications with a base station; and a data processor operating under the control of a stored program for, when the mobile station is in an autonomous mode of operation, autonomously transmitting from the mobile station to the base station on a reverse channel, the mobile station receiving an assignment message from the base station, the assignment message comprising an acknowledgment/non-acknowledgment indication, power control bits, and data rate grant bits, said data processor being responsive to a reception of an acknowledgment indication from the base station for switching the mobile station to a scheduled mode of operation and for transmitting data from the mobile station to the base station over a reverse supplemental channel (R-SCH), wherein there exist at least four R-SCH states and a plurality of transitions between the R-SCH states.

Claim 33 recites

A method for operating a mobile station with a base station for transmitting data packets from the mobile station to the base station over a reverse supplemental channel, comprising: when the mobile station is in an autonomous mode of operation, autonomously transmitting from the mobile station to the base station to initiate a data transmission from the mobile station to the base station, the transmission comprising a supplemental channel request message that is transmitted over a reverse channel; in response to receiving an acknowledgment indication from the base station, switching the mobile station to a scheduled mode of operation; transmitting data from the mobile station to the base station over a reverse supplemental channel (R-SCH), wherein there exist at least four R-SCH states and a plurality of transitions between the R-SCH states, further comprising transmitting mobile station buffer activity bits and a data rate request bit, and receiving, from the base station in response, a power control bit, a data rate grant bit and an acknowledgment/non-acknowledgment indication.

Claims 31-33 recite "the assignment message comprising an acknowledgment/non-acknowledgment indication, power control bits, and data rate grant bits." The Patent Office in the Final Office Action dated January 19, 2007, (page 11, lines 3-4, page 12, lines 8-10, page 13,

lines 13-15) asserted that "Bae teaches buffer activity bits and a data rate request bit and receiving from the base station a power control bit, data rate grant bit (see paragraph [0037] and Table I)." Bae, paragraphs 0037-0049, discloses, in a reverse supplemental channel request message, a reference pilot signal, a unit of buffer size in the mobile station, etc., but no buffer activity bits or a data rate request bit. Base, discloses the reverse supplemental channel assignment message, paragraphs 0049-55, includes a transmission duration of reverse data, an index indicating the amount of data during the transmission duration, etc., but no buffer activity bits or a data rate request bit. Also, Bae does not teach four R-SCH states. By active state (e.g., paragraph 0062), Bae refers to a state of the mobile station and not to a state of the reverse supplemental channel.

Thus, claims 31-33 are not made obvious by Kadaba in view of Bae.

The Patent Office is respectfully requested to reconsider and remove the rejections of the claims 1-34 under 35 U.S.C. 102(b) based on Kadaba or 35 U.S.C. 103(a) based on Kadaba in view of Koo and/or Bae, and to allow all of the pending claims 1-34 as now presented for examination. An early notification of the allowability of claims 1-34 is earnestly solicited.